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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,923	10/20/2000	Francisco Hideki Imai	1819/100111	8475

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EXAMINER

HENN, TIMOTHY J

ART UNIT PAPER NUMBER

2622

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/692,923

Applicant(s)

IMAI ET AL.

Examiner

Timothy J. Henn

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) 23-36 and 51-70 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-22 is/are allowed.
- 6) ☒ Claim(s) 37-39 and 44-46 is/are rejected.
- 7) ☒ Claim(s) 40-43 and 47-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 37-43 have been considered but are moot in view of the new ground(s) of rejection.
2. The amendments to claims 1-22 and 44-50 overcome the previous rejections to these claims. The rejections of claims 1-22 and 44-50 are therefore withdrawn.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 37-39 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderschuit et al. (US 5,093,763).

#### **[claim 44]**

Regarding claim 44, Vanderschuit discloses an apparatus for multi-spectral image capture of a first scene, the apparatus comprising: an image acquisition system (c. 1, ll. 10-24) and a set of two or more illuminants, each illuminant having a different spectral power distribution and illuminating one of the images of the first scene (c. 5, ll. 37-60). While Vanderschuit discloses the use of a camera to capture multiple exposures of the scene, Vanderschuit does not disclose a camera having an imaging

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sensor which has a set of color filters thereon and has two or more color channels, each of the color channels having a different spectral sensitivity.

Official Notice is taken that the use of digital cameras including an imaging sensor with a set of color filters thereon (e.g. RGB filters) and having two or more color channels with different spectral sensitivity (e.g. R, G and B channels) is notoriously well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a digital camera including a color imaging sensing device and having multiple color channels to capture the multiple exposures described in Vanderschuit to allow for instant review of the captured scene and image capture without the need for film processing steps.

**[claim 45]**

Regarding claim 45, Vanderschuit discloses combining the filtered images into a single image (i.e. generating a multi-spectral scene description; c. 1, ll. 10-24).

**[claim 46]**

Regarding claim 46, Official Notice is taken that it is notoriously well known in the art that cameras can be used to capture more than one scene. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reuse the camera and illuminant system of Vanderschuit to capture a second series of images of a second scene as claimed to obtain images of a first scene and second scene without requiring a second image capturing system.

**[claims 37-39]**

Claims 37-39 are method claims corresponding to apparatus claims 44-46.

Therefore, claims 37-39 are analyzed and rejected as previously discussed with respect to claims 44-46.

***Allowable Subject Matter***

5. Claims 1-22 are allowed.

**[claims 1-22]**

Regarding claims 1-22, the prior art does not teach or fairly suggest an image capture system or method in which a first series of images is acquired by one or more image acquisition systems including an imaging sensor with a set of color filters thereon and having two or more color channels; and filtering each of the first series of images with a different filter from a set of non-interference color filters having different spectral transmittances wherein the filters are positioned between the scene and the one or more image acquisition systems. While the use of color filters (e.g. color wheels, IR cut filters, etc) are known in the art, the use of these filters to capture a series of image by a camera which includes an imaging sensor having a set of color filters thereon is not taught or suggested.

6. Claims 40-43 and 47-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**[claims 40-43 and 47-50]**

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Regarding claims 39-43 and 46-50, the prior art does not teach or fairly suggest an image capture system or method of capturing a series of images in which each image is illuminated by a different illuminant and capturing a second series of images of a second scene using a second series of illuminants and generating a characteristic mapping from the second series of filtered images as claimed.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

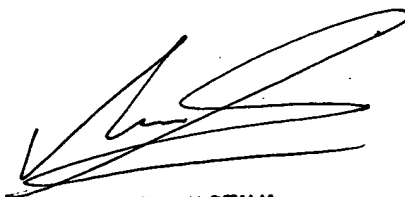
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJH  
11/21/2006



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